

IN THE CLAIMS:

1. (Currently Amended) A process for the laser machining, especially laser welding, of workpieces (2), especially vehicle bodies and body parts, wherein, the process comprising:

_____ sending a laser beam (14) from at least one a laser source (13) is sent via a guide means (16) to a laser tool (15) at a multiaxial hand (8) of at least one manipulator (4) and is directed 5 towards the workpiece (2), characterized in that :

guiding, with said manipulator (4) guides, a remote laser tool (15) with a focal distance [[F]] at a contact-free distance floatingly above the workpiece (2) along a machining path (30) and deflects deflecting said laser beam (14) essentially by means of a motion of said hand at axes IV, V, VI by variable deflection angles (α) [[,]] ; and

10 wherein controlling said laser source (13), whose power is variable, is controlled as a function of the motions of said laser beam.

2. (Currently Amended) A process in accordance with claim 1, characterized in that wherein said manipulator (4) guides said hand (8) in a displacing motion relative to said workpiece (2), wherein said beam deflection motion of said hand axes IV, V, VI is superimposed to said displacing motion.

3. (Currently Amended) A process in accordance with claim 1 or 2, characterized in that wherein said manipulator (4) performs an essentially continuous displacing motion, wherein said superimposed beam deflection motion is directed at least partially against said displacing

motion.

4. (Currently Amended) A process in accordance with claim 1, 2 or 3, characterized in that wherein said laser source (13) and said manipulator (4) are acted on by a common control (20).

5. (Currently Amended) A process in accordance with claim 1 one of said above claims, characterized in that wherein one or more programs and at least one technological data bank, with which [[[]]] program and data bank[[[]]] said motions to be carried out by said manipulator (4) and said laser process parameters are determined and carried out automatically on a basis of input workpiece data, are stored and run in a computer (21) and in at least one said memory(22) of said control (20).

6. (Currently Amended) A process in accordance with claim 1 one of said above claims, characterized in that wherein said power of said laser source (13) and said displacing and beam deflection motions to be performed by said manipulator (4) are determined and controlled according to a section energy to be introduced into said workpiece (2).

7. (Currently Amended) A process in accordance with claim 1 one of said above claims, characterized in that wherein said workpiece data are input by said operator into said control (21) on site via an input unit (23).

8. (Currently Amended) A process in accordance with claim 1 one of said above claims, characterized in that wherein one or more tools (27) for said workpiece (2) are controlled by said control (21).

9. (Currently Amended) A process in accordance with claim 1 one of said above claims, characterized in that wherina a laser tool (15) with a switchable or adjustable focal distance [[F]] is used.

10. (Currently Amended) A laser device for said laser machining, especially including laser welding, of a workpiece (2), especially vehicle bodies and bodies body parts workpiece, the device comprising:

a manipulator;
____ with at least one said a laser source (13), which can be connected via a guide means (16) to a laser tool (15) at a multiaxial hand (8) of at least one said manipulator (4), characterized in that wherein said manipulator (4) holds a remote laser tool (15) with a focal distance [[F]] and guides same floatingly at a contact-free distance above said workpiece (2) along a machining path (30), wherein said manipulator (4) can be controlled in terms of said motion of [[its]] hand axes IV, V, VI such that said laser beam (14) can be deflected by variable deflection angles α , and wherein said power of said laser source (13) can be controlled variably and as a function of motions of said laser beam.

11. (Currently Amended) A laser device in accordance with claim 10, characterized in that wherein said manipulator (4) guides said hand (8) in a displacing motion relative to said workpiece (2), wherein said beam deflecting motion of said hand axes $\text{IV}, \text{V}, \text{VI}$ is superimposed to said displacing motion.

12. (Currently Amended) A laser device in accordance with claim 10 ~~or 11~~, characterized in that wherein said manipulator (4) performs an essentially continuous displacing motion, wherein said superimposed beam deflecting motion is directed at least partially opposite said displacing motion.

13. (Currently Amended) A laser device in accordance with claim 10, ~~11 or 12~~, characterized in that wherein said laser source (13) and said manipulator (4) have a common control (20).

14. (Currently Amended) A laser device in accordance with claim 13 one of said above claims, characterized in that wherein said control (20) has at least one said computer (21) and at least one memory (22) with one or more programs and with at least one technology data bank, with which [[[]]program and data bank[[[]]]] said motions to be performed by said manipulator (4) and said laser process parameters can be automatically determined and carried out on said basis of input workpiece data.

15. (Currently Amended) A laser device in accordance with claim 10 one of said above claims, characterized in that wherein said power of said laser source (13) and said displacing and beam deflecting motions to be performed by said manipulator (4) can be determined and controlled according to section energies to be introduced into said workpiece (2).

16. (Currently Amended) A laser device in accordance with claim 13 one of said above claims, characterized in that wherein said control (21) has a input unit (23) for inputting workpiece data by an operator on site.

17. (Currently Amended) A laser device in accordance with claim 13 one of said above claims, characterized in that wherein said input unit (23) has a keyboard (24) and/or a drive for said portable data storage media (25) and/or at least one interface for a data line (26).

18. (Currently Amended) A laser device in accordance with claim 13 one of said above claims, characterized in that wherein said laser device (1) has one or more tools (27) for said workpiece (2), which are connected to said control (21).

19. (Currently Amended) A laser device in accordance with claim 18 one of said above claims, characterized in that wherein said tools (27) are designed as said clamping tools (28) and/or as a conveying means (29) for said workpieces (2).

20. (Currently Amended) A laser device in accordance with claim 10 one of said above claims, characterized in that wherein said guide means (16) has a modular design and has a plurality of conductor sections (18) that can be connected to a conductor couplings (19).

21. (Currently Amended) A laser device in accordance with claim 10 one of said above claims, characterized in that wherein said guide means (16) is designed as a fiber optic cable.

22. (Currently Amended) A laser device in accordance with claim 10 one of said above claims, characterized in that wherein said laser source (13) is designed as a fiber laser, disk laser or diode-pumped Nd-YAG laser.

23. (Currently Amended) A laser device in accordance with claim 10 one of said above claims, characterized in that wherein said laser tool (15) has a focal distance $[[F]]$ that can be switched or adjusted.

24. (Currently Amended) A laser device in accordance with claim 10 one of said above claims, characterized in that wherein said laser tool (15) has a focal distance greater than 300 mm and preferably greater than 1,500 mm.

25. (Currently Amended) A laser device in accordance with claim 13 one of said above claims, characterized in that said laser device (1) has further comprising additional manipulators

to provide a plurality of said manipulators (4) with said laser tools (15), wherein a common laser source (13) can be switched by said control (20) to said different laser tools (15).

26. (Currently Amended) A laser device in accordance with claim 10 one of said above claims, characterized in that wherein said manipulator (4) is designed as a multiaxial industrial robot, preferably as a comprising a six-axis articulated arm robot with said robot axes I-VI.

27. (Currently Amended) A laser device in accordance with claim 10 one of said above claims, characterized in that wherein said hand (8) has three said rotatory hand axes IV, V, VI.